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CHECKLIST

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Checklist of the family Pipunculidae (Diptera) of Finland

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Abstract

A checklist of the Pipunculidae (Diptera) cited from Finland is presented. At present, 107 species have been recorded.

Keywords

Checklist, Finland, Diptera, Pipunculidae

Introduction

Pipunculidae or big-headed flies can be readily identified at family level by their large compound eyes occupying almost the entire globular head. Additional morphological autapomorphies at the family rank of this group are their enlarged anterior ommatidial facets in the female including a so far unique retina1 pattern among Diptera, the piercer-like shape of the female ovipositor and the presence of a chitinized postspiracular plate of their last instar larvae (Wada 1991, Rafael and De Meyer 1992). Due to the small to medium sized adults (2–12 mm), their uniform dark appearance and their rather cryptic lifestyle, it takes some effort to detect them in the field. Therefore, Pipunculidae can best be collected by Malaise traps, although a trained eye and patience can yield species rich catches by hand-netting as well. Big-headed flies can be found in a variety of habitats, where they are hovering in between herbal vegetation or among leaves of bushes and trees, searching for food sources (mainly honeydew) and mating

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partners or for suitable hosts for their parasitic larvae, which are important endoparasitoids of nymphal and adult Auchenorrhyncha (Chalarinae and Pipunculinae) and adult Tipulidae (Nephrocerinae) (Koenig and Young 2007). This highly specialized life-style is unique to this family of Diptera. Hardly any larvae have been described so far and the knowledge about their host specificity is fragmentary. For the European fauna, host records are available for 30% of the 209 known species, i.e., 62 pipunculid species have been reared from 59 host species in the past (Kehlmaier unpublished).

The knowledge of the Finnish fauna can be considered as good, with the latest review published only recently by Kehlmaier and Ståhls (2007). Whereas about a dozen additional species can be expected to be found, the distribution of the individual taxa within Finland is largely unknown.

Identification: Pipunculidae taxonomy largely depends on male genitalic features. Therefore, dissection of the male genital apparatus is essential and a high magnification of at least 50 times should be used for identification. Females can best be identified through a combination of outer anatomical features primarily based on the shape of the ovipositor. Most pipunculid genera present in Europe have been taxonomically reviewed within the past three decades. As no comprehensive key exists for northern Europe, adults have to be identified with the following set of publications: *Chalarus* (Kehlmaier and Assmann 2008, Kehlmaier 2010), *Jassidophaga* and *Verrallia* (Kuznetzov 1992, Kehlmaier 2006), *Nephrocerus* (Grootaert and De Meyer 1986), Cephalopsini (De Meyer 1989, Ackland 1993, Kehlmaier and De Meyer 2005, Kehlmaier 2008), Eudorylini (Kehlmaier 2005, Kuznetzov 1990), Pipunculini (Kehlmaier 2008), *Dorylomorpha* (Albrecht 1990), *Tomosvaryella* (Földvári and De Meyer 1999, Kehlmaier 2008).

Number of species:
World: 1428 species (Pape et al. 2011)
Europe: 209 species
Finland: 107 species
Faunistic knowledge level in Finland: good

Checklist

suborder Brachycera Macquart, 1834
clade Eremoneura Lameere, 1906
clade Aschiza Becher, 1882
superfamily Syrphoidea Latreille, 1802

PIPUNCULIDAE Walker, 1834
CHALARINAE Aczél, 1939
CHALARUS Walker, 1834
Chalarus basalis Loew, 1873
Chalarus brevicaudis Jervis, 1992

Chalarus decorus Jervis, 1992
Chalarus elegantulus Jervis, 1992
= *absconditus* Kehlmaier in Kehlmaier & Assmann, 2008
Chalarus fimbriatus Coe, 1966
Chalarus gynocephalus Jervis, 1992
Chalarus holosericeus (Meigen, 1824)
= *perplexus* Jervis, 1992
Chalarus immanis Kehlmaier, 2008
Chalarus indistinctus Jervis, 1992
Chalarus juliae Jervis, 1992
Chalarus latifrons Hardy, 1943
Chalarus pughi Coe, 1966
Chalarus spurius (Fallén, 1816)
= *obscurus* (Zetterstedt, 1838)
= *argenteus* misid.
JASSIDOPHAGA Aczél, 1939
Jassidophaga beatricis (Coe, 1966)
Jassidophaga fasciata (von Roser, 1840)
= *setosa* (Verrall, 1901)
Jassidophaga pilosa (Zetterstedt, 1838)
Jassidophaga villosa (von Roser, 1840)
Jassidophaga spec. A
VERRALLIA Mik, 1899
Verrallia aucta (Fallén, 1817)
NEPHROCERINAE Aczél, 1939
NEPHROCERUS Zetterstedt, 1838
Nephrocerus flavicornis Zetterstedt, 1844
Nephrocerus lapponicus Zetterstedt, 1838
Nephrocerus scutellatus (Macquart, 1834)
PIPUNCULINAE Walker, 1834
tribe Cephalopsini Macquart, 1834
CEPHALOPS Fallén, 1810
sg. *Cephalops* Fallén, 1810
Cephalops aeneus Fallén, 1810
Cephalops vittipes (Zetterstedt, 1844)
= *annulipes* (Zetterstedt, 1838) in part
sg. *Parabeckerias* De Meyer, 1994
Cephalops obtusinervis (Zetterstedt, 1844)
sg. *Semicephalops* De Meyer, 1994
Cephalops carinatus (Verrall, 1901)
Cephalops straminipes (Becker, 1900)
= *chlorionae* (Frey, 1945)
Cephalops subultimus Collin, 1956

Cephalops varipes (Meigen, 1824)
= *semifumosus* (Kowarz, 1887)
CEPHALOSPHAERA Enderlein, 1936
Cephalosphaera furcata (Egger, 1860)
Cephalosphaera germanica Aczél, 1940
tribe Eudorylini Rafael & De Meyer, 1992
CLISTOABDOMINALIS Skevington, 2001
Clistoabdominalis doczkali Kehlmaier, 2005
EUDORYLAS Aczél, 1940
Eudorylas angustimembranus Kozánek & Kwon, 1991
= *kozaneki* De Meyer, 1993
Eudorylas arcanus Coe, 1966
Eudorylas barkalovi Kuznetzov, 1990
Eudorylas carpathicus Kozánek, 1993
Eudorylas coloratus (Becker, 1897)
Eudorylas elephas (Becker, 1897)
Eudorylas fascipes (Zetterstedt, 1844)
Eudorylas furvulus Collin, 1956
Eudorylas fuscipes (Zetterstedt, 1844)
= *roseri* misid.
= *trochanteratus* misid.
Eudorylas fusculus (Zetterstedt, 1844)
Eudorylas goennersdorfensis Dempewolf & Dunk, 1996
Eudorylas inferus Collin, 1956
Eudorylas jenkinsoni Coe, 1966
Eudorylas johnenae Dempewolf, 1996
Eudorylas kowarzi (Becker, 1897)
Eudorylas montium (Becker, 1897)
Eudorylas obscurus Coe, 1966
Eudorylas restrictus Coe, 1966
= *pannonicus* misid.
Eudorylas slovacus Kozánek, 1993
Eudorylas stackelbergi Kuznetzov, 1990
Eudorylas subfascipes Collin, 1956
Eudorylas subterminalis Collin, 1956
Eudorylas terminalis (Thomson, 1870)
Eudorylas unicolor (Zetterstedt, 1844)
Eudorylas vonderdunki Dempewolf, 1998
Eudorylas zermattensis (Becker, 1897)
Eudorylas zonatus (Zetterstedt, 1849)
Eudorylas zonellus Collin, 1956
tribe Microcephalopsini Rafael & De Meyer, 1991
MICROCEPHALOPS De Meyer, 1989

Microcephalops opacus (Fallén, 1816)
= *vestitus* (Becker, 1900)
tribe Pipunculini Walker, 1834
PIPUNCULUS Latreille, 1802
Pipunculus calceatus von Roser, 1840
Pipunculus campestris Latreille, 1802
= *ater* Meigen, 1824
= *spinipes* Meigen, 1830
= *thomsoni* Becker, 1897
Pipunculus dimi Kuznetzov, 1991
Pipunculus elegans Egger, 1860
= *spinipes* auct. nec Meigen, 1830
Pipunculus fonsecai Coe, 1966
Pipunculus lenis Kuznetsov, 1991
= *thomsoni* auct. nec Becker, 1897
Pipunculus lichtwardti Kozanek, 1981
Pipunculus oldenbergi Collin, 1956
Pipunculus omissinervis Becker, 1889
Pipunculus tenuirostris Kozanek, 1981
= *balticus* Kuznetzov, 1991
Pipunculus violovitshi Kuznetzov, 1991
= *varipes* auct. nec Meigen, 1824
Pipunculus zugmayeriae Kowarz, 1887
tribe Tomosvaryellini Hardy, 1943
DORYLOMORPHA Aczél, 1939
sg. *Dorylomorpha* Aczél, 1939
Dorylomorpha aczeli (Hardy, 1947)
Dorylomorpha confusa (Verrall, 1901)
Dorylomorpha extricata (Collin, 1937)
Dorylomorpha imparata (Collin, 1937)
Dorylomorpha rufipes (Meigen, 1824)
= *xanthoceroides* (Aczél, 1939)
Dorylomorpha spinosa Albrecht, 1979
sg. *Dorylomyia* Albrecht, 1990
Dorylomorpha beckeri (Aczél, 1939)
Dorylomorpha xanthocera (Kowarz, 1887)
sg. *Dorylomyza* Albrecht, 1990
Dorylomorpha albitarsis (Zetterstedt, 1844)
Dorylomorpha anderssoni Albrecht, 1979
Dorylomorpha canadensis Hardy, 1943
Dorylomorpha clavata Albrecht, 1979
Dorylomorpha clavifemora Coe, 1966
Dorylomorpha fennica Albrecht, 1979

Dorylomorpha hackmani Albrecht, 1979
Dorylomorpha haemorrhoidalis (Zetterstedt, 1838)
Dorylomorpha infirmata (Collin, 1937)
Dorylomorpha lautereri Albrecht, 1990
Dorylomorpha occidens (Hardy, 1939)
Dorylomorpha onegensis Albrecht, 1990
Dorylomorpha platystylis Albrecht, 1979
Dorylomorpha praetermissa Albrecht, 1979
Dorylomorpha xanthopus (Thomson, 1870)
sg. *Pipunculina* Albrecht, 1990
Dorylomorpha borealis (Wahlgren, 1910)
Dorylomorpha maculata (Walker, 1834)
TOMOSVARYELLA Aczél, 1939
= ***Alloneura*** Rondani, 1856 nomen nudum
Tomosvaryella cilitarsis (Strobl, 1910)
= *forsiusi* (Frey, 1932)
Tomosvaryella coquilletti (Kertész, 1907)
Tomosvaryella geniculata (Meigen, 1824)
= *nigritula* (Zetterstedt, 1844)
Tomosvaryella kalevala Kehlmaier, 2008
Tomosvaryella kuthyi Aczél, 1944
Tomosvaryella minuscula (Collin, 1956)
= *magyarica* Földvári & De Meyer, 1999
Tomosvaryella palliditarsis (Collin, 1931)
Tomosvaryella rossica Kuznetzov, 1993
Tomosvaryella sylvatica (Meigen, 1824)

Excluded species (as discussed in Kehlmaier and Ståhls 2007)

Claraeola halterata (Meigen, 1838) misidentified
Dorylomorpha incognita (Verrall, 1901) misidentified
Clistoabdominalis trochanteratus (Becker, 1900) misidentified
Dasydorylas roseri (Becker, 1897) misidentified
Eudorylas pannonicus (Becker, 1897) misidentified

Notes

***Chalarus argenteus* Coe, 1966**. The single Finnish specimen previously identified as *C. argenteus* was re-examined and was found to belong to *C. spurius* (Kaj Winqvist, pers. comm.).

***Jassidophaga* spec. A.** The specimens summarised under this place holder in Kehlmaier and Ståhls (2008) might represent an additional species. Using the key in Kuznetzov (1992), males run towards the Eastern Palaearctic *J. kurilensis* (Kuznetzov, 1992), whereas females are closest to *J. beatricis*.

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